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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,730	08/07/2001	Takeshi Kobayashi	201440-9001	1108

7590 06/22/2005

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EXAMINER	
ELAHEE, MD S	

ART UNIT	PAPER NUMBER
2645	

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/923,730	KOBAYASHI, TAKESHI	
	Examiner	Art Unit	
	Md S. Elahee	2645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *01/31/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is responsive to an amendment filed 03/04/05. Claims 1-6 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection which is deemed appropriate to address all of the added limitation at this time.

Claim Objections

3. Claim 4 is objected to because of the following informalities: regarding claim 4, the citation 'opposite said radio unit' appears to be 'opposite to said radio unit'. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Patel (U.S. Patent No. 5,828,339).

Regarding claim 6, Patel teaches a radiator 220 situated inside the rear radome 202 [i.e., rear case] (fig.9-12).

Patel further teaches that a horizontal wall 217 [i.e., antenna metal element] which is connected with the radiator at an output end thereof, and brought into contact with a feeding

terminal formed on the printed circuit board at an input end thereof (fig.11, 12; col.10, lines 23-45). (Note; feeding terminal is inherent on the printed circuit board)

Patel further teaches that a reflector 224 (i.e., reflecting plane) which is situated opposite to the radiator maintaining a predetermined interval therebetween (fig.11, 12).

Patel further teaches that a metallization [i.e., conductive painting] which is applied to a rear side of wall 216 [i.e., inner surface] of the rear radome 202 and brought into contact with a grounding pattern of the printed circuit board (fig.11, 12; col.10, lines 34-49).

Patel further teaches connecting terminals which connect an edge of the reflector (i.e., reflecting plane) with the metallization (i.e., conductive painting) via contacting means (fig.11, 12; col.10, lines 28-49). (Note; connecting terminals, contacting means are inherent)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura (U.S. Patent No. 6,169,521) in view of Pedersen et al. (U.S. Patent No. 5,952,975).

Regarding claim 1, Kitamura teaches a printed board [i.e., printed circuit board] on which a radio unit composed of a transmitter and a receiver is mounted (fig.1, 4; col.1, lines 47-49, col.2, lines 20-22). (Note; a radio unit composed of a transmitter and a receiver is mounted is inherent for a portable radio unit)

Kitamura further teaches a land 9 [i.e., grounding pattern] of the printed board (fig.4, item 9).

Kitamura further teaches an internal antenna (fig.4, item 1). However, Kitamura does not specifically teach "an internal antenna which is classified into an inverted F shaped antenna". Pedersen teaches an internal antenna which is classified into an inverted F shaped antenna (fig.4; col.3, lines 55-57). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitamura to incorporate an internal antenna which is classified into an inverted F shaped antenna as taught by Pedersen. The motivation for the modification is to have doing so in order to achieve a useful change in resonant frequency.

Kitamura further teaches an antenna metal element which is connected with a feeding point of the internal antenna at an output end thereof, and brought into contact with a feeding terminal formed on the printed board at an input end thereof (fig.4-6; col.2, lines 19-31, col.3, lines 39-47, 55-63, col.4, lines 1-19).

Kitamura further does not specifically teach "a front case which is provided with a data-inputting key, an information-displaying means, a speaker, and a microphone". Pedersen teaches a front case which is provided with a earphone [i.e., speaker], and a microphone (fig.1; col.4, line 65, col.5, line14). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitamura to incorporate a front case being provided with a speaker, and a microphone as taught by Pedersen. The motivation for the modification is to have doing so in order to maintain communication using speaker, and a microphone.

Kitamura in view of Pedersen further does not specifically teach "a front case which is provided with a data-inputting key, an information-displaying means". Examiner takes Official

Notice that a front case which is provided with a data-inputting key, an information-displaying means is well known in the art. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitamura to incorporate a front case being provided with a front case which is provided with a data-inputting key, an information-displaying means in order to input a number of a telephone to be called by using key, indicate a number input from input unit by using display.

Kitamura further teaches a lower case [i.e., rear case] which is provided with a space for accommodating the internal antenna, and extending the grounding pattern to an inner surface of the rear case when fitted to the front case to form a casing (fig.1-5; col.3, lines 12-32, 39-47, 55-63). (Note; front case is inherent for a portable radio unit)

Kitamura further teaches that internal antenna is supported between the rear case and the printed circuit board (fig.4).

Regarding claim 2, Kitamura teaches the space in the rear case for accommodating the internal antenna is a cavity which is fit for the internal antenna (fig.1-4).

Regarding claim 3 is rejected for the same reasons as discussed above with respect to claim 1. Furthermore, Kitamura does not specifically teach "a conductive painting is applied to a predetermined region of an inner surface of said rear case". Pedersen teaches a conductive layer [i.e., conductive painting] is applied to a grounded surface [i.e., predetermined region of an inner surface] of the rear case (fig.1-6; col.3, lines 1-10, 25-50, col.4, lines 1-12). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitamura to incorporate a conductive painting being applied to a predetermined region of an inner surface of the rear case as taught by Pedersen. The motivation for the modification is to

have doing so in order to avoid air gaps between resonant element and the ground plane so that electrical parameters of an antenna won't be changed.

Regarding claim 4, Kitamura teaches that the conductive painting is applied to a region which is opposite the radio unit at least (fig.2; col.3, line 51- col.4, line 4). Kitamura does not specifically teach "the conductive painting is applied to a region which is opposite said radio unit at least". Pedersen teaches the conductive layer [i.e., conductive painting] is applied to a region which is opposite the radio unit of antenna 11 at least (fig.2, 4; col.3, lines 40-56). (Note; radio unit is inherent for antenna 11) Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitamura to incorporate the conductive painting being applied to a region which is opposite the radio unit at least as taught by Pedersen. The motivation for the modification is to have doing so in order to avoid air gaps between resonant element and the ground plane so that electrical parameters of an antenna won't be changed.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patel (U.S. Patent No. 5,828,339) in view of Kitamura (U.S. Patent No. 6,169,521) further in view of Pedersen et al. (U.S. Patent No. 5,952,975).

Regarding claim 5 is rejected for the same reasons as discussed above with respect to claims 1 and 6.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hegendoerfer (U.S. Patent No. 6,326,922) teach Yagi antenna coupled with a low noise amplifier on the same printed circuit board.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Md S. Elahee whose telephone number is (571) 272-7536. The examiner can normally be reached on Mon to Fri from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

OVIDIO ESCALANTE
PATENT EXAMINER

Ovidio Escalante

M.E.
MD SHAFIUL ALAM ELAHEE
May 27, 2005